MCLE Environmental and Land Use Law Conference: Federal Regulation Update

Carl F. Dierker
Regional Counsel
U.S. Environmental Protection Agency
New England Region
Boston, Massachusetts

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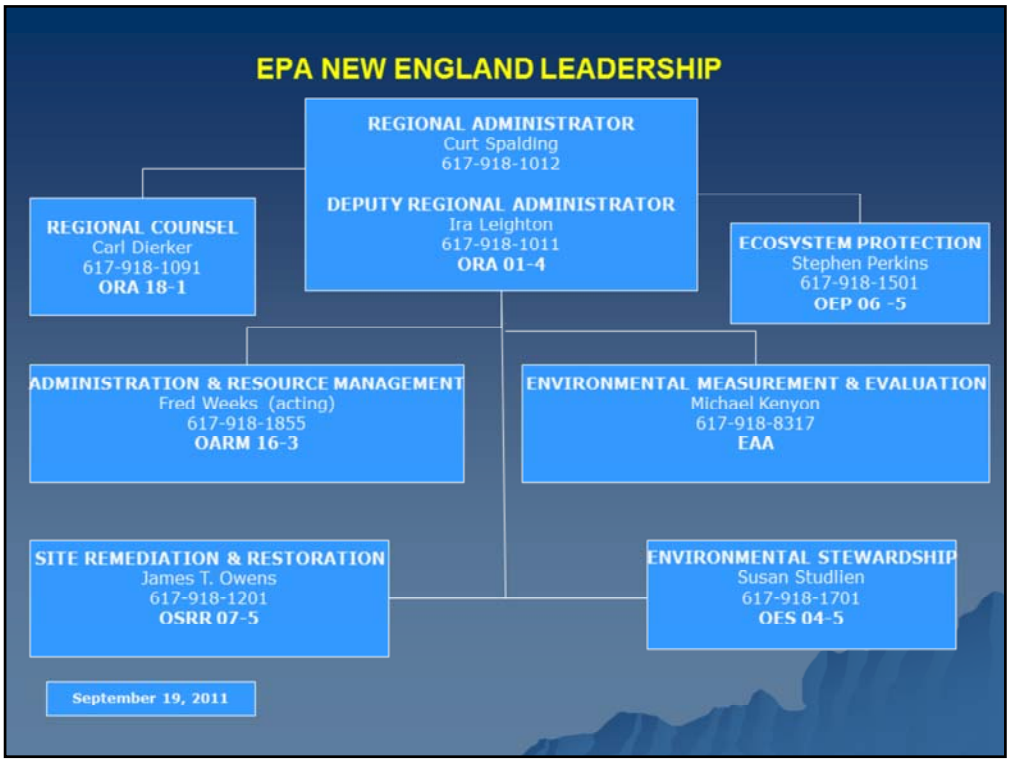
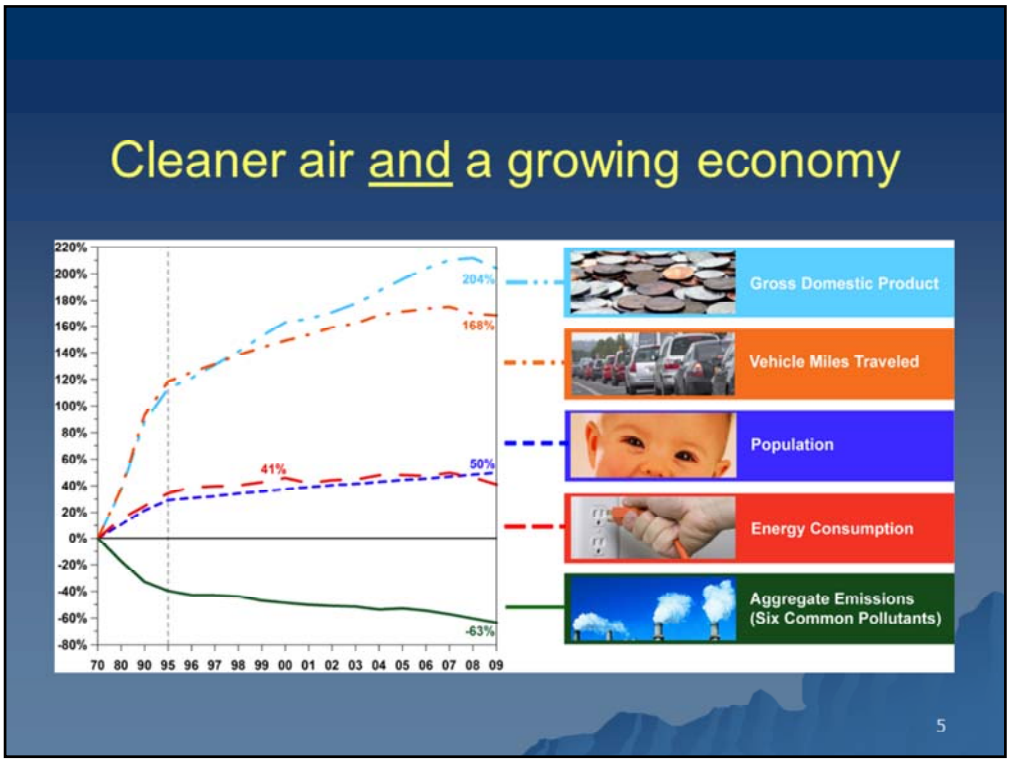
These are the topics I'll address, which correspond to the sections of our materials in the book.


EPA NEW ENGLAND LEADERSHIP
REGIONAL ADMINISTRATOR
Curt Spalding
617-918-1012
DEPUTY REGIONAL ADMINISTRATOR
Ira Leighton
617-918-1011
ORA 01-4
REGIONAL COUNSEL
Carl Dierker
617-918-1091
ORA 18-1
ECOSYSTEM PROTECTION
Stephen Perkins
617-918-1501
OEP 06 -5
ADMINISTRATION & RESOURCE MANAGEMENT
Fred Weeks (acting)
617-918-1855
OARM 16-3
ENVIRONMENTAL MEASUREMENT & EVALUATION
Michael Kenyon
617-918-8317
EAA
SITE REMEDIATION & RESTORATION
James T. Owens
617-918-1201
OSRR 07-5
ENVIRONMENTAL STEWARDSHIP
Susan Studlien
617-918-1701
OES 04-5
September 19, 2011

II. Clean Air Act

- National
  - GHG regulation and permitting
  - Power plant toxics standards (MATS)
  - Boiler & incinerator toxics standards
  - Interstate air pollution
  - Ozone NAAQS decision
- Region 1
  - PSD delegation to Massachusetts
  - Cape Wind air permit
  - Pioneer Valley air permit



•But first I want to make a big picture point about the Act. I think this slide goes a long way toward explaining one of the lenses through which EPA sees its work under the CAA.

• Lately we've all read agitated commentary from skeptics about how EPA is preparing to shut down the nation's economy using the CAA. But for over 40 years, the exact opposite has been the case.

• As you can see, we have accomplished major reductions in the six major "criteria" pollutants since the Act was first passed in 1970 – an overall 43% reduction.

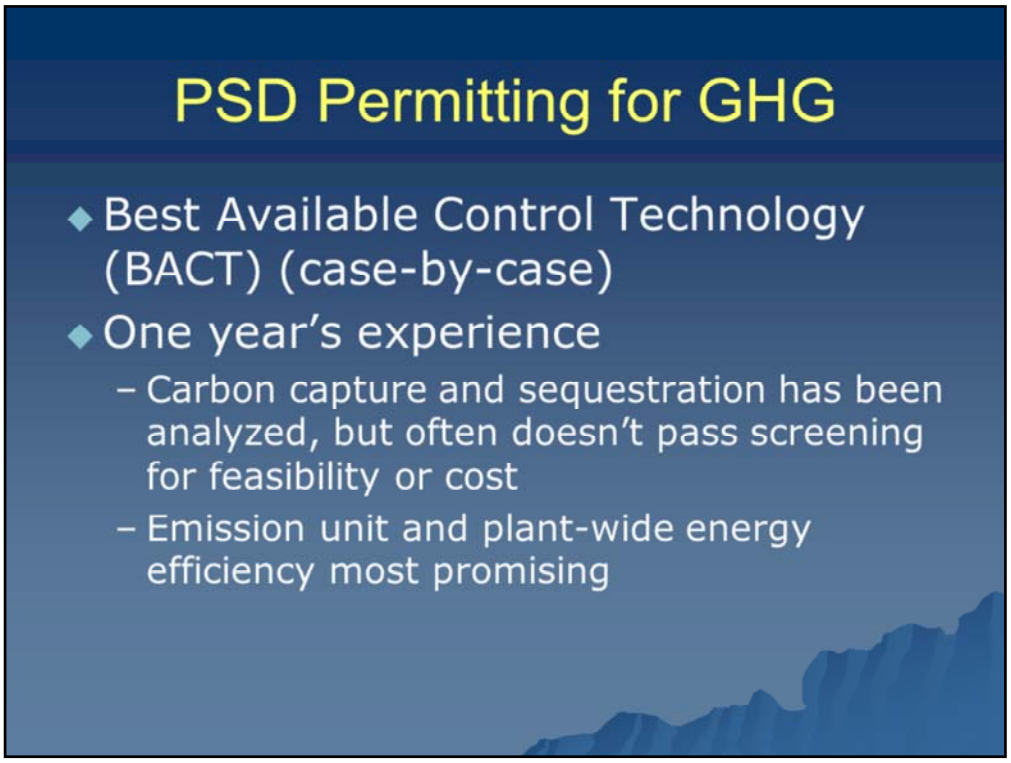
•At the same time virtually every other indicator of economic vitality has steadily risen. The President and Lisa Jackson have every intention of maintaining that record and have worked diligently and with imagination to apply the statute's important mandates in a common sense way.

•First, the agency has begun implementing GHG permitting as part of the PSD program, both through our own direct PSD permitting, and through approval of state implement plan revisions for states with authorized programs.

•This summer, the agency proposed a second round of motor vehicle standards for light-duty vehicles (cars and SUVs), and also proposed first-ever standards for medium and heavy duty vehicles (trucks and buses). Because the vehicles will be more fuel-efficient, they will save billions of dollars in gas.

•We are soon to propose New Source Performance Standards for new and existing power plants and refineries, but have not yet issued that proposal.

•There's more information at EPA's website and in your materials – which would have filled several shelves if all the material supporting these actions were included in your course books.



•EPA and the states have begun implementing greenhouse gas permitting through the Prevention of Significant Deterioration (PSD) permitting program. Covers new major sources & major modifications to existing major sources of pollutants.

•The main PSD requirement for GHGs is Best Available Control Technology (BACT).

- •BACT -- a case-by-case determination of the maximum level of control achievable while taking into account cost and collateral environmental impacts.
- •Designed to ratchet down over time.

•We (and the states) have now been implementing GHG permitting as part of the PSD permit program for over a year now., and we have learned:

- •Carbon capture & sequestration -- analyzed as part of the BACT process for every facility undergoing PSD,
  - •but it's usually so expensive that it's eliminated on cost-effectiveness grounds,
  - •and in many cases it's completely infeasible.
- •Energy efficiency measures have been an important focus of attention, since in the absence of "end-of-pipe" controls for GHG, one key way to limit emissions will be to generate less GHG in the first place.
  - • E.g. Pioneer Valley draft permit determined that the plant's gas turbines, which are extremely efficient, are the BACT for GHGs.

• As you remember, in April 2010 EPA & NHTSA jointly issued final rules for cars and light duty trucks, for model years 2012-2016.

- They require these vehicles to meet an estimated combined average emissions level equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements.

- We actually expect automakers to meet the emissions standard through a combination of fuel economy improvements and other improvements, such as reducing refrigerant leakage.

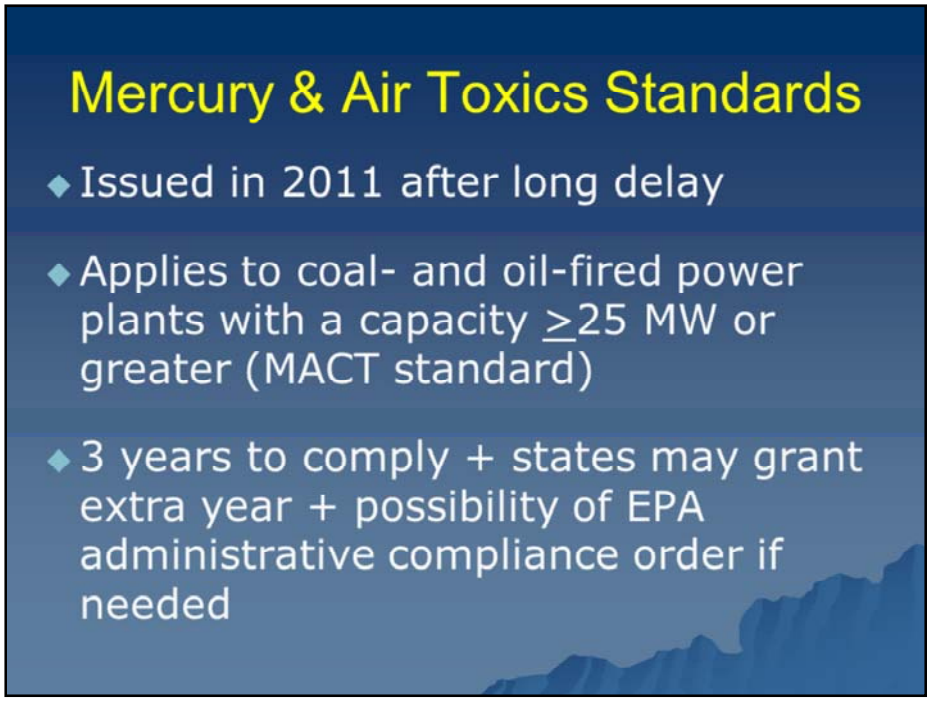
•In August 2011, EPA & NHTSA proposed first-ever GHG standards for heavy-duty vehicles (trucks, tractors, buses, etc.) model years 2014-2018

- Not easily simplified into “miles per gallon” because it depends on vehicle category & size

•In November 2011, EPA & NHTSA proposed new standards for cars and light-duty trucks for model years 2017- 2025.

- equivalent to 54.5 miles per gallon (mpg) if the vehicles were to meet this CO2 level solely through fuel economy improvements

•We expect to finalize both of these standards in 2012.



•One of the most important initiatives from EPA in many years is the power plant toxics standards. This was at one point called the "Utility MACT" but the agency's final name is the "Mercury and Air Toxics Standards," or "MATS."

•This has a long and complicated regulatory and legal history, but the short version is that we have finally taken action on a requirement in the CAA 1990 amendments for to EPA to determine whether it was "appropriate and necessary" to control mercury emissions from power plants, and if so, to do it.

•The standards apply to coal- and oil-fired power plants with a capacity of 25 MW or more. It applies a CAA standard called Maximum Achievable Control Technology (MACT) which is very stringent. The statute provides a specific compliance period but EPA may issue administrative orders where appropriate.

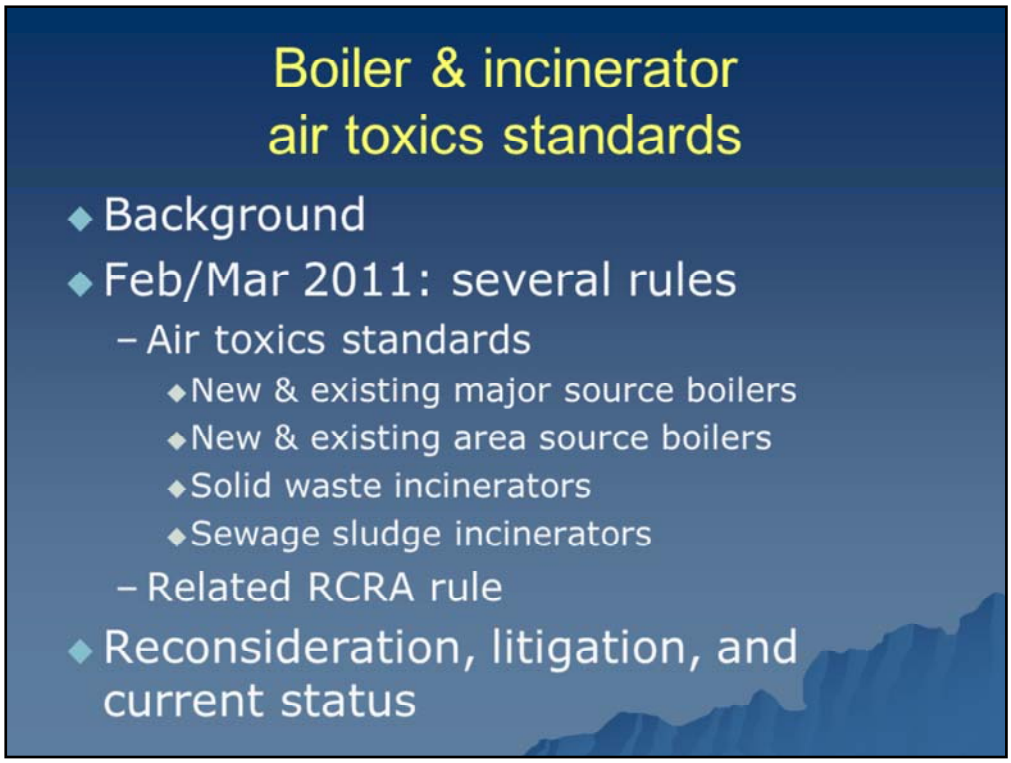
•Benefits

-- Will avert up to 11,000 premature deaths

-- For every dollar spent to reduce this pollution, Americans get **$3-9** in health benefits.

•In EPA's 40 year history, the Clean Air Act has not impacted power companies' ability to keep the lights on. Analysis by EPA, DOE, and the Congressional Research Service shows that the MATS rule will not adversely affect reliability anywhere in the country.

•Here in MA, the effect will be less than in many other parts of the country, because most of the coal plants here are already controlled, and the oil-fired units run less and less. If anything, MA is now on an even playing field with out-of-state power plants.



•These standards came as part of a long and confusing litigation history. The short version is that, after an initial delay, we were sued, and then in the end we had to issue the rules before we were quite ready to do so, because of a court-imposed schedule.

•There are actually several distinct rules involving air toxics standards for

•new & existing industrial, commercial, and institutional boilers at major sources of toxic air pollutants. (e.g., Mystic Station, GE-Lynn

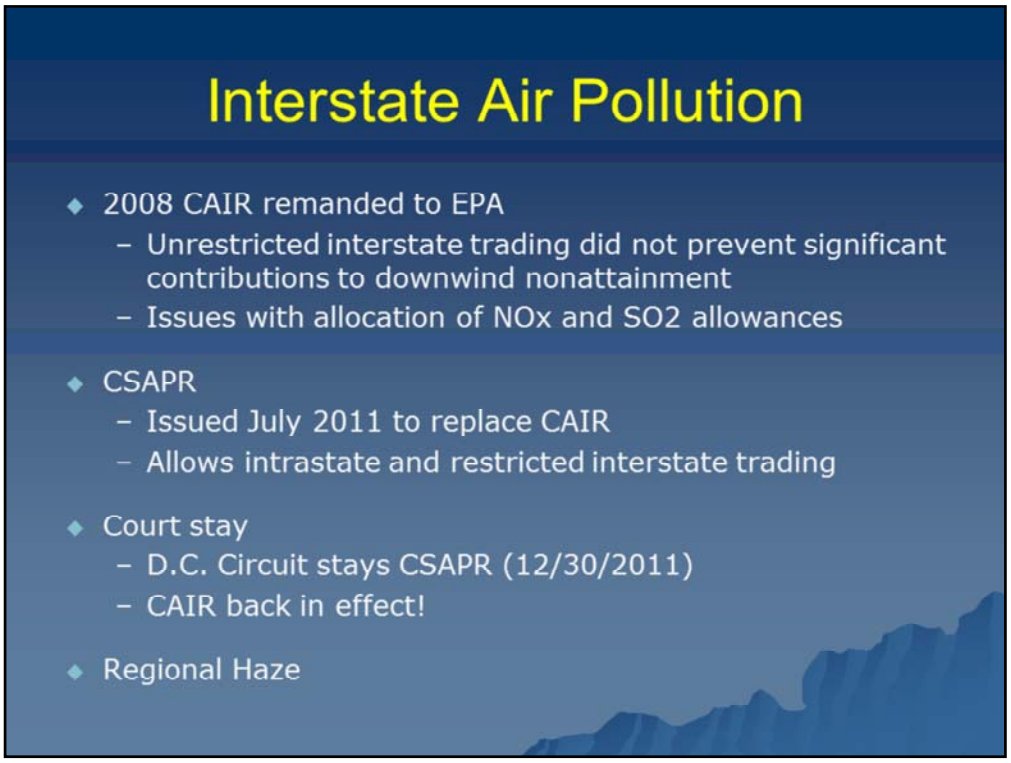
•new & existing industrial, commercial, and institutional boilers at smaller sources, which the CAA calls area sources. These are far more numerous and could apply to boilers in hospitals, large commercial or apartment buildings, etc.

•commercial and industrial solid waste incinerators (CISWI)

•sewage sludge incinerators.

•And a related rule under RCRA to determine which requirements apply to "secondary materials" that are burned as fuels. Collectively, these rules would prevent thousands of premature deaths per year.

•These rules have taken effect, but we've been sued on several of them, and we've also agreed to reconsider them. For the time being, we've provided an enforcement assurance at the national level.



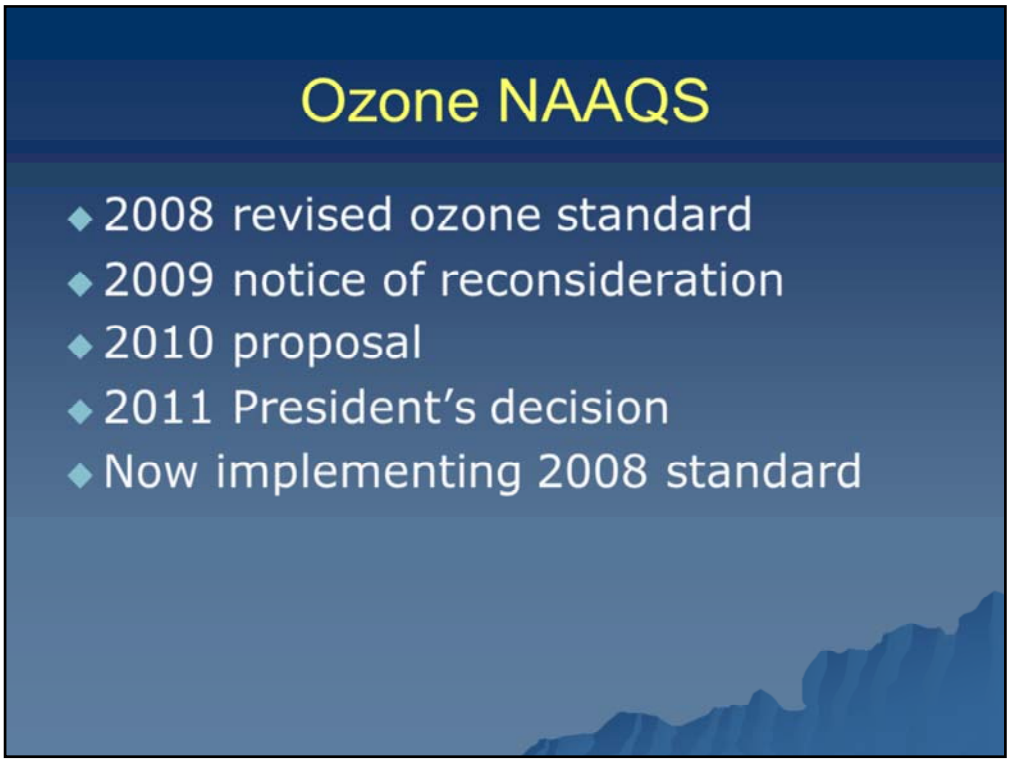
• The Clean Air Act requires EPA to address the problem of interstate transport of air pollution. EPA's last attempt to address this issue, the Clean Air Interstate Rule (CAIR), was struck down by the DC Circuit in 2008 and remanded to EPA.

• In July 2011, EPA finalized CSAPR, the successor to CAIR. CSAPR requires significant reductions in SO2 and NOx emissions that cross state lines. It does this by intra-state cap and trade, and limited inter-state trading. It's designed to meet the court's objections to CAIR. By 2014, the required emissions reductions will annually avoid 13,000 to 34,000 premature deaths.

• Interestingly, while MA was part of CAIR and in EPA's initial proposal, after final modeling, EPA removed MA from the list of regulated upwind states in final CSAPR rule.

CSAPR was supposed to go into effect as of January 1, 2012. However, CASPR it was challenged in court, and on literally the last business day of 2011, the D.C. Circuit issued a temporary stay. The court expects to hear the case in April 2012, and EPA expects to prevail on the merits. In the meantime, CSAPR is stayed, and CAIR is back in effect, which means that Massachusetts is back in.

I also want to briefly mention the Regional Haze Rule, which addresses impairments to visibility in national parks. States in New England, including Massachusetts, have to adopt a low-sulfur fuel strategy and apply technology to large existing sources that contribute to visibility impairments. We'll be finalizing these plans in 2012.



• The last national air initiative I'd like to address is one that the agency decided not to complete. This is the national ambient air quality standard, or NAAQS, for ground-level ozone. Ground-level ozone is the primary constituent of smog, which can form in harmful concentrations during the summer time.

•Under the CAA, the agency is supposed to review the NAAQS every 5 years. After delay, in 2008, the previous administration tightened the ozone standard. The 2008 standard was immediately challenged in court.

•The new administration announced that it would reconsider the 2008 ozone standard, and in January 2010, we proposed to tighten it considerably. We submitted a final standard to the White House for final review. However, the White House decided that the agency should not issue the final standard, because the NAAQS would be up for 5-year review in 2013 anyway, and the science upon which the reconsideration relied is now several years old. Consequently, we have not finalized the reconsideration.

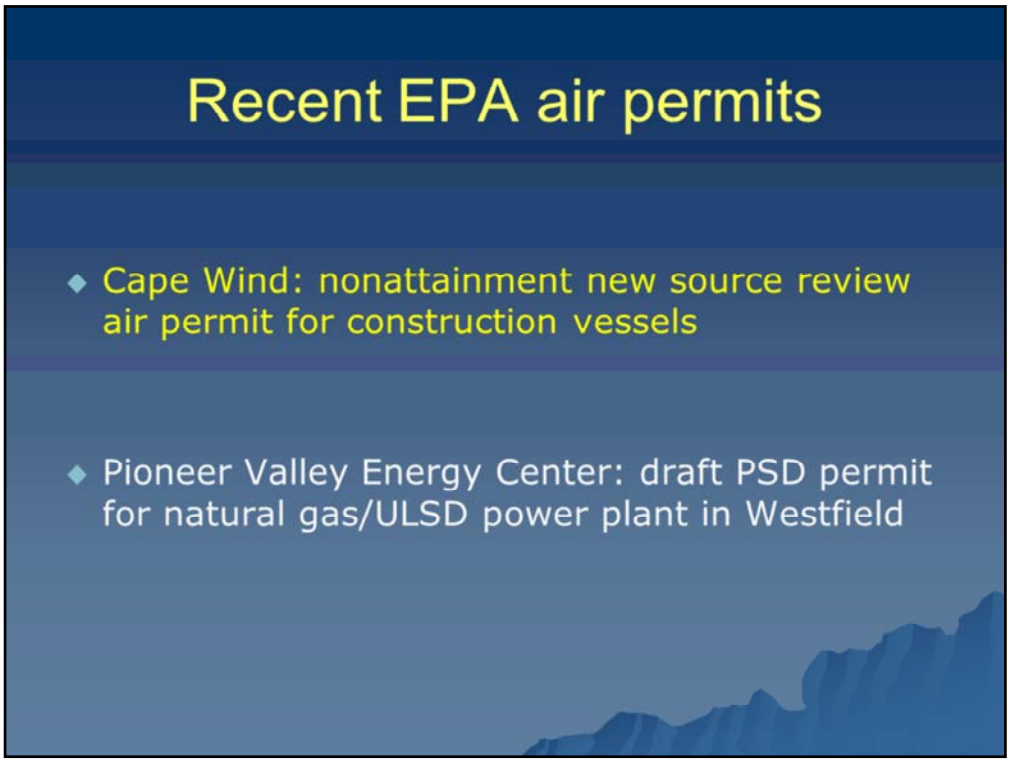
•In the past few months, we've begun the process of implementing the 2008 standard, which we had not done because we assumed we would be issuing a new one. Interestingly, it looks like most of Massachusetts will be attaining this standard.

• I'd now like to turn to several Clean Air Act initiatives from EPA Region 1 in particular. Some of you may remember from last year that I said that we hoped to reach an agreement with MA DEP for DEP to take back delegation of the PSD program. The good news is we have accomplished this.

•In 2003, the Commonwealth returned the program to EPA in protest over the reforms EPA had injected into the program, several of which MA and others successfully challenged in court. Unfortunately, this meant that EPA and DEP were implementing two parallel permitting programs for the same facilities, which was frustrating to the public, permit applicants, and the agencies.

•In April 2011, EPA and DEP finally reached an agreement to delegate the Federal PSD permitting program to DEP. In other words, DEP is directly implementing the federal regulation.

•MA DEP continues work to develop its own PSD rule so that the Commonwealth can get out from under relying on the federal PSD rule to implement the program. Unfortunately that hasn't happened yet, but the two agencies remain interested, and we hope this may be the year.



•Finally, I'd like to discuss two recent EPA Region 1 air permits.

•First, Cape Wind

•Many of you may not know that EPA issued an air permit for construction of Cape Wind. While wind turbines themselves are not air emissions sources, the turbines and associated infrastructure will be built by mobile platforms known as jack-up rigs that can emit substantial amount of NOx and other pollutants.

•Jack-up rigs are regulated as stationary sources under the CAA.

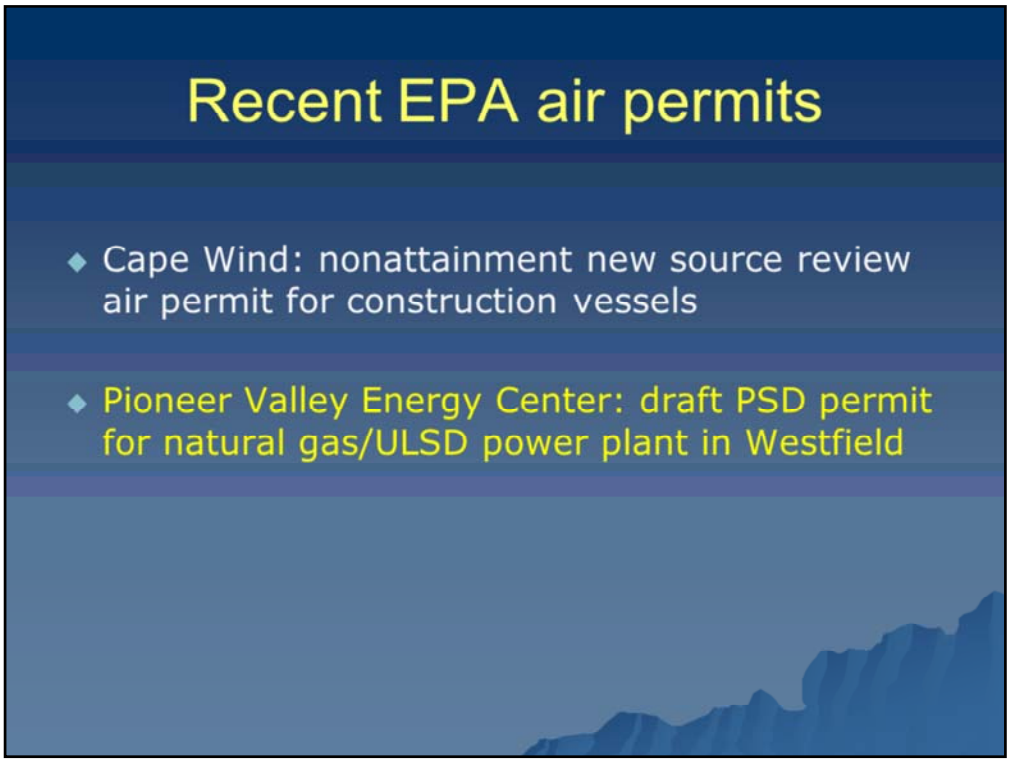
• We issued a major nonattainment NSR permit because Cape Wind is off the coast of Massachusetts, a nonattainment area for ozone, and because the construction project would constitute a major source.

•As you might expect, it received substantial public interest.

•We held three public hearings, consulted with the tribes, and issued a final permit.

•Our permit focused, of course, on the air emissions of the construction vessels, not on the operation of the wind turbines.

•The Alliance to Protect Nantucket Sound and the Wampanoag Tribe of Gay Head (Aquinnah) appealed the permit to EPA's Environmental Appeals Board. We won the appeal and the permit has gone into effect.



•The second permit, which I can't discuss in detail because it's pending, is EPA's last PSD permit in MA, for Pioneer Valley Energy Center in Westfield.

•In November 2010, we issued a draft PSD permit. This was before the PSD delegation to Massachusetts, and before the GHG regulation took effect in January 2011.

•We received extensive public comment and a request for a public hearing, including concerns about environmental justice. We decided to re-propose a new draft permit in 2011, and so our PSD delegation to MADEP reserved Pioneer Valley for EPA since we'd already started the process.

•We added a greenhouse gas BACT, revised and refined the air quality analysis, and added a more extensive environmental justice analysis.

•In December 2011, we issued a new draft permit for public comment.

•Because environmental justice concerns, we did an enhanced public outreach process. There comment period closed on January 24th.

•Because this is still under consideration, I can't talk much about it.

Outline

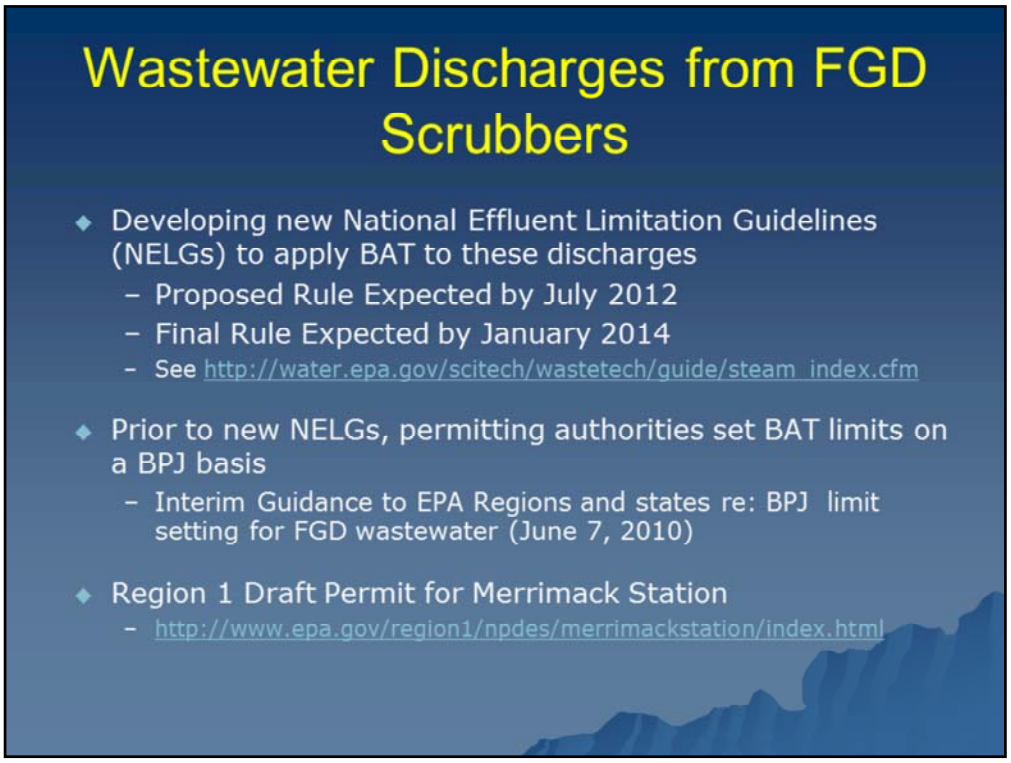
I. Clean Air Act

II. Clean Water Act

III. Smart Growth & Brownfields

III. Clean Water Act

- National
  - New national effluent limitation guidelines for wastewater discharges from FGD scrubbers
- Regional
  - Kendall Station settlement
  - Upper Blackstone permit



Based on the findings from a multi-year study of the Steam Electric Power Generating industry, EPA plans to develop new effluent guidelines for application of BAT to wastewater discharges from wet FGD scrubbers.

EPA's interim guidance to EPA regions and states re: BPJ limit setting for FGD wastewater are in the course materials.

The Draft NPDES Permit for Merrimack Station provides an example of an effort to develop site-specific BAT limits for FGD scrubber wastewater discharges. It's on Region 1's website.

Why set limits for FGD Wastewater?

- NELGs for Steam-Electric industry last updated in 1982
- Growing use of FGD scrubbers to reduce air pollution (e.g., Mercury, SO_2, Arsenic)
- But *wet* FGD scrubbers may transfer pollutants from flue gas to wastewater
- These pollutants include toxics (e.g., mercury, arsenic, selenium) & other pollutants of concern (e.g., chlorides, nitrogen)
- Technologies exist to reduce/eliminate discharges of these pollutants (e.g., dry FGD scrubbers; various wastewater treatment methods)

Dry FGD scrubbers produce no wastewater but produce a solid material that must be managed for reuse and/or disposal

Wet FGD scrubbers produce a wastewater, as well as solid materials, that must be managed for reuse and/or disposal.

Wastewater treatment methods include physical/chemical treatment, biological treatment, evaporative technologies, and more.

Some of these technologies may be able to achieve a zero discharge in some cases.

Kendall Station settlement

Kendall Station Facts

- Up to 256 MW of electrical power
- Gas-fired plant with oil backup
- Currently uses once-through cooling water system withdrawing and discharging up to 80 MGD
- Water discharged up to 105^0F, or up to 20^0F warmer than intake water

Lower Charles River Basin

- Highly valued recreational resource
- Habitat for several species of resident and anadromous fish
- Clean Charles Initiative launched by EPA in 1995 to address water quality impairments

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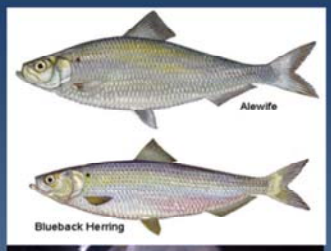
Effects of open-cycle cooling

- Temperature
  - Chronic and acute effects to aquatic life
  - Contributes to formation of algae blooms
  - Impacts recreational uses
- Impingement
  2,145 fish (annual maximum)
- Entrainment
  86 million eggs and larvae (max)



Impingement – Fish are caught in screens of CWIS and killed

Entrainment – Fish larvae are sucked into cooling water intake structure (CWIS)

Permit Timeline

- September 2006 - Final NPDES Permit Issued
- October 2006 - Permit Appealed by Mirant and CLF/Charles River Watershed Assocation to EAB
- March 2008 - EPA withdraws 2006 permit conditions pertaining to cooling water intake structures (CWIS) and proposes permit modification – subsequently appealed
- September 2008 – Permittee proposes reconfiguration of plant to produce and sell more steam and significantly reduce intake and heated discharge flows
- February 2011 – Final permit issued with compliance order setting timeline for construction of upgrade and flow reductions

2006 permit included

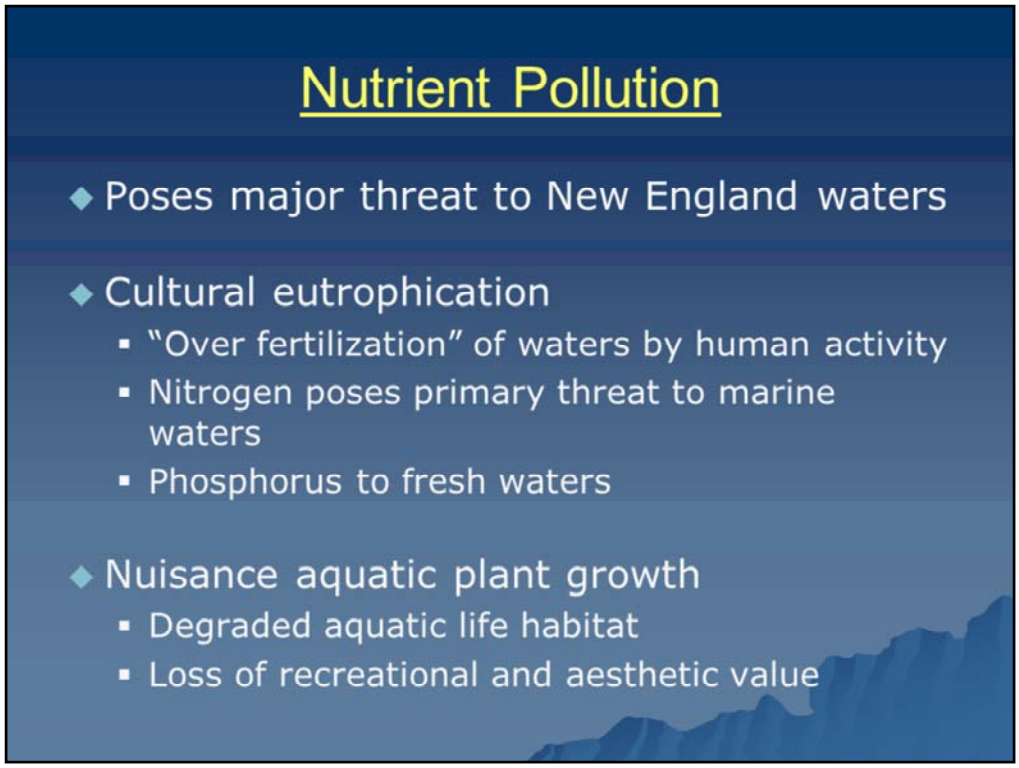
- End of pipe and in-stream limits
- Cooling water intake structure requirements
- Appealed by company and CLF/CRWA

Settlement overview

- Major plant upgrade
  - new steam turbine and rooftop air cooling
  - roughly double steam production
- Sell more steam to Veolia (Trigen) through new pipeline
  - Originally to be along Longfellow Bridge
  - Now will be on Craigie Dam behind Museum of Science
  - Most heat will go through steam pipeline, not river
- Revised permit: detailed in-stream temperature compliance requirements
- Permit appeals withdrawn, and compliance order
- Side agreement to fund habitat mitigation

Settlement benefits

- Improved water quality
  - Reduce intake flows and heated discharge by at least 95%
  - Ensure protective in-stream temperatures
- Improved air quality
  - (Indirectly) older boilers may be replaced
- Sustainability
  - Kendall Station (clean from an air perspective) continues to be reliable/local provider of electricity and steam
  - Former waste product (heat) now a useful commercial product (steam)



The chief concern associated with excessive nutrient loading is the acceleration of a natural process called eutrophication.

Eutrophication describes the process by which water bodies gradually age and is marked by increasing plant productivity.

Normally take hundreds or thousands of years to progress, because under natural, pre-settlement conditions, phosphorus concentrations are extremely low.

That process accelerates dramatically when the rate of nutrient loading exceeds the assimilative capacity of the water body, even slightly.

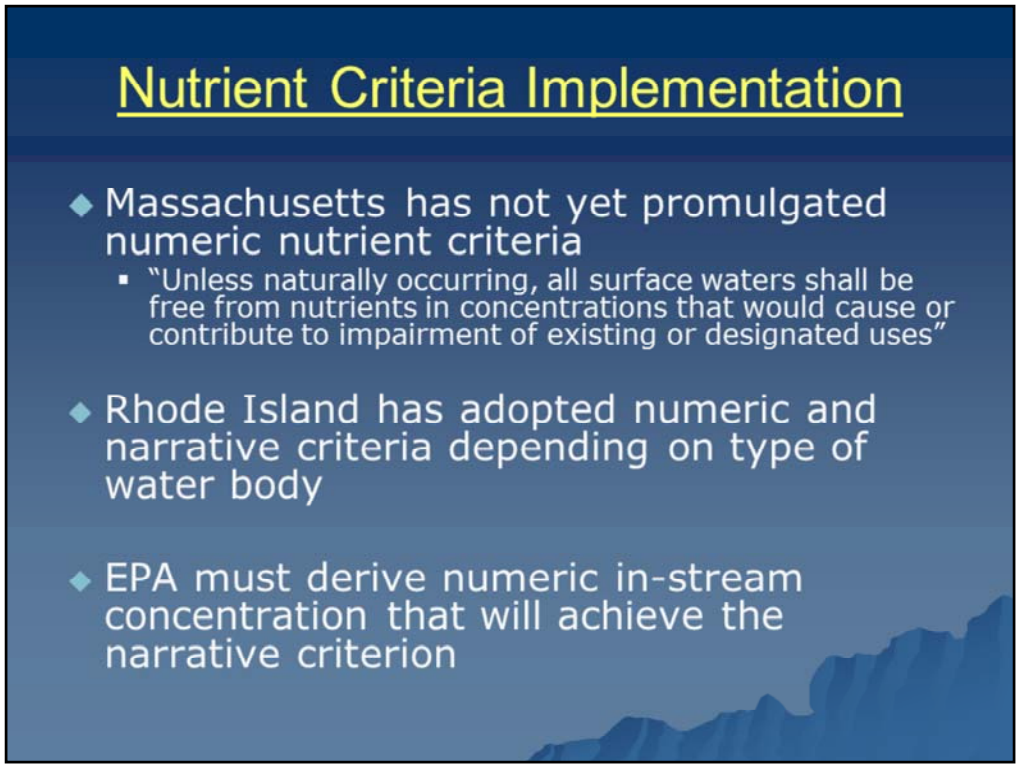
The result is increased algal biomass in the water column. Turbidity. Surface scum. Odors. Floating mats of duckweed. Dissolved oxygen impacts.

Grist Mill Pond

This is the Grist Mill Pond in Sudbury.

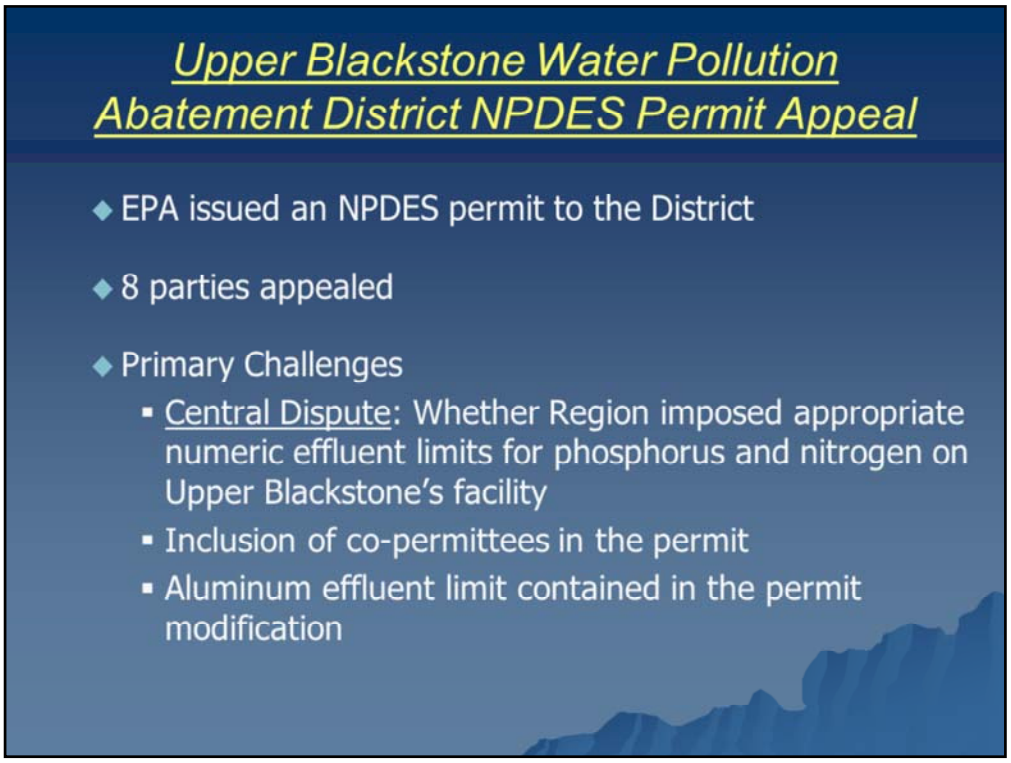
This is the Carding Millpond in Sudbury. Its headwater is the Hop Brook.

The Hop Brook and its impoundments are grossly eutrophic as a result of point source loading from the Easterly facility and the nonpoint source loading from accumulated phosphorus in the sediments.



Any existing point source discharge containing nutrients in concentrations that encourage eutrophication must apply the "highest and best practical treatment to remove such nutrients." (314 CMR § 4.04(5)).

Mass. has interpreted this to mean 0.2 mg/l.



Appealing parties: Upper Blackstone, MA DEP, 4 co-permittees, Conservation Law Foundation, and Trout Unlimited

Challenged Limits:

Nitrogen Limit

Limit of 5 mg/l set to comply with narrative criterion in RI water quality standards

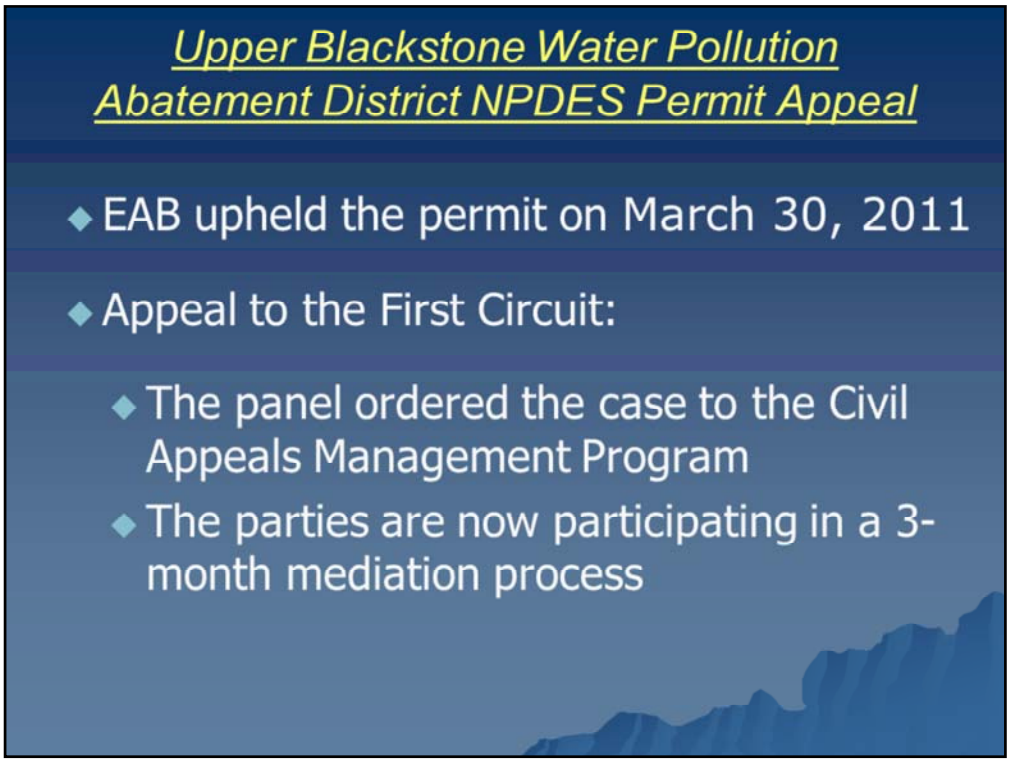
Contested element: Region's reliance on and application of results from physical water quality model designed to predict relationship between nitrogen loading and trophic response variables in Narragansett Bay ecosystem

Phosphorous Limit

- Limit of .1 mg/l set to comply with narrative criterion in MA water quality standards

- Reflects effects-based approach, as recommended by the *Gold Book*, that provides threshold value above which water quality impairments are likely to occur

- Co-permittees: Makes several municipalities and treatment works directly responsible for reporting sewer overflows and for operation and maintenance of their respective collection systems



In seeking appeal, the District claimed that limits set by EPA in the Permit for P, N and Al are unnecessarily stringent

CLF, on the other hand, claimed that N limit is overly lax.

Outline

I. Clean Air Act

II. Clean Water Act

III. Smart Growth & Brownfields

IV. Smart Growth

- HUD-DOT-EPA Partnership for Sustainable Communities
- Sustainable Communities Grants
- Sustainable Communities Technical Assistance

Grants in Massachusetts were just announced in fall 2011.

The HUD grants went to:

• the City of Boston for work in the Fairmount Corridor;

• the City of Worcester for revitalization in the Maine South neighborhood; and

• the Montachusett Regional Planning Commission to develop a plan for Wachusett Station on the Fitchburg commuter rail line.

•The DOT grant will be used on replacement of the Merrimack River Bridge on I-95.

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The partnership is based on these six principles, which were negotiated between the three agencies.

All three of our agencies pledged to imbed these Livability Principles into our administrative and regulatory decisions, our spending decisions, and ultimately into our legislative initiatives.

All three agency leaders also stressed to staff that they want everything done under this Partnership to be consistent with environmental justice and equitable development goals.

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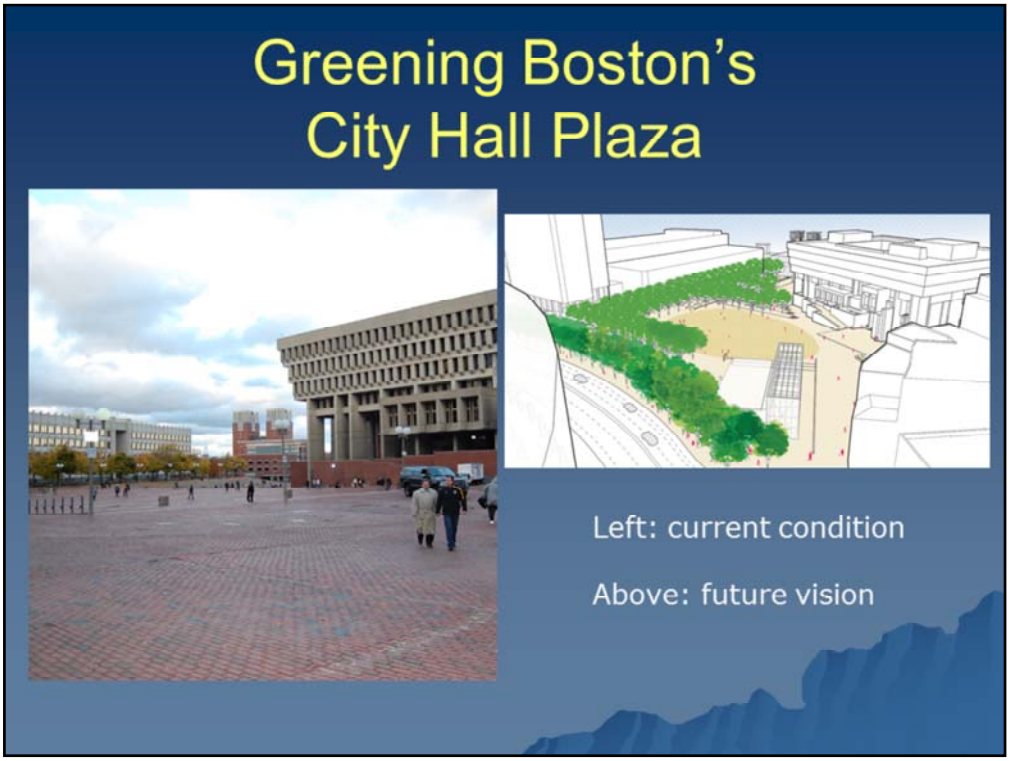


• EPA's Greening America's Capitals program is intended to help state capital cities develop an implementable vision of development that incorporates innovative green building and green infrastructure strategies - hopefully under the watchful eyes of state legislators.

• 2 communities in New England won this assistance in 2011 – Boston and Hartford.

• Boston's City Hall Plaza is one of the most reviled places in New England, and Mayor Menino and his staff asked for help in designing incremental improvements to the plaza that would make it a more pleasant and usable public space, and that would improve its environmental performance (e.g., by reducing stormwater runoff).

• A design team led by Utile ran a design workshop and developed 2 scenarios, one of which is shown in the upper right.

• Greening the plaza with trees and stormwater infiltration areas isn't as easy as it would seem since much of the plaza is actually a roof over 3 subway lines and a parking garage.

•The city is now looking at ways to implement the designs incrementally, in conjunction with projects such as the upgrade of the Government Center T stop.

• There are a lot of tools already available that communities can use to shape growth, so one of the things that EPA is doing is helping communities use those tools through our Building Blocks program.

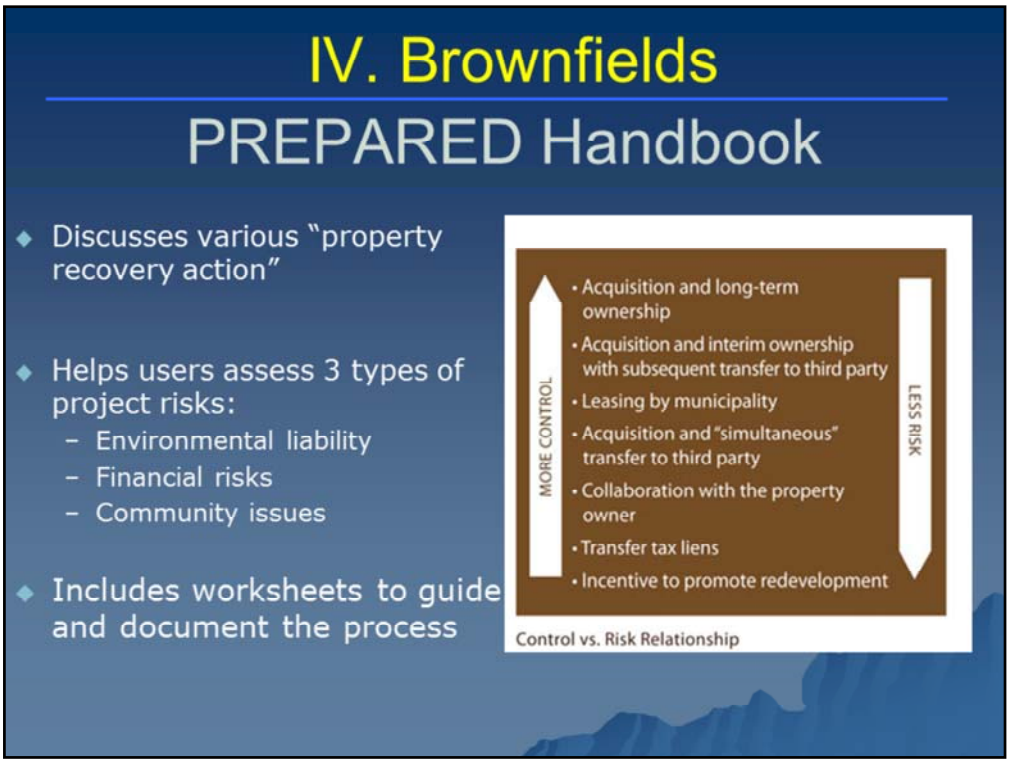
• These are very short interventions that will help a community take the next step.

• They typically take the form of a one-day workshop in the community with a technical expert.

• As examples, Chelmsford, MA asked for help in understanding the economic benefits of smart growth redevelopment of a key parcel in town.

•And Dover, NH asked for help with a zoning code audit to help them identify changes they could make to be more sustainable.

•We plan to help at least 5 more communities in the coming year with tools such as parking audits and Complete Streets designs.



- The Hanbook was developed by EPA New England and its contractors for local governments.

- It provides a risk management framework for evaluating various actions that a local government might take to achieve a desired reuse at contaminated properties that it does not currently own.

-These are called “property recovery actions” in the Handbook.

-The chart shows the various types of property recovery actions that the Handbook discusses.

- You can access the handbook on EPA’s website, the link to which is in the MCLE book,

Questions?

Carl F. Dierker
Regional Counsel
U.S. Environmental Protection Agency
New England Region
Boston, Massachusetts

dierker.carl@epa.gov
617-918-1091